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By:

*Cindy Baglietto*  
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

Eric GAUSSIER et al.

Application No.: 09/982,236

Filed: October 19, 2001

For: METHODS, SYSTEMS AND ARTICLES  
OF MANUFACTURE FOR SOFT  
HIERARCHICAL CLUSTERING OF CO-  
OCCURRING OBJECTS

Group Art Unit: 2161

Examiner: NGUYEN, Cam Linh T.

Confirmation No.: 7611

**Mail Stop Appeal Brief--Patents**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450.

Sir:

**REPLY BRIEF UNDER 37 C.F.R. § 41.41**

Pursuant to 37 C.F.R. § 41.41, Appellants submit this Reply Brief to the Board of Patent Appeals and Interferences in response to the Examiner's Answer dated July 31, 2007 ("Examiner's Answer").

**I. Introduction**

In the Examiner's Answer, the Examiner maintained the rejection of claims 1- 26 under 35 U.S.C. § 103 as unpatentable in light of U.S. Patent No. 6,742,003 ("Heckerman") in view of U.S. Patent No. 6,460,025 ("Fohn").

Appellants maintain that the Examiner has failed to establish a *prima facie* case of obviousness because the Examiner has failed to establish that Heckerman in view of Fohn teaches or suggests all claim limitations according to MPEP § 2142. Further, Appellants maintain that one of ordinary skill in the art would not have a reason to combine Heckerman and Fohn in the manner claimed according to *USPTO Memorandum* from Margaret A. Focarino, Deputy Commissioner for Patent Operations, May 3, 2007, page 2. Therefore, Appellants respectfully request that the Board of Patent Appeals and Interferences overturn the Examiner's rejection of Appellants' claims.

II. **Heckerman in View of Fohn Fails to Teach or Suggest All Limitations of the Claim**

MPEP § 2143.03 requires that "[t]o establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art." MPEP § 2143.03 (citing *In re Royka*, 490 F.2d 981 (C.C.P.A. 1974)) (emphasis added). According to this section, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." *Id.* (citing *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970)) (emphasis added). For claims 1-26 to be obvious, Heckerman in view of Fohn must disclose each and every claim limitation.

Claim 1 is directed to a method performed by a computer, the method including "performing a clustering process that **creates a hierarchy of clusters that reflects a segregation of the documents** in the collection based on the words included in the documents, wherein **any document in the collection may be assigned** to a first cluster in the hierarchy based on a first segment of the respective document, and the

respective document may be assigned to a second cluster in the hierarchy based on a second segment of the respective document, wherein the first and second clusters are associated with different paths of the hierarchy ..." (emphasis added; hereinafter known as "performing step").

In the Examiner's Answer, the Examiner alleged that Fohn discloses assigning documents to both first and second clusters based on segments within the same documents used to create the hierarchy of clusters by stating:

Referring to Fig. 4, Fohn teaches an example of calculating entity relevance and node feasibility. Fohn especially teaches "the node n4 is another feasible choice from current node n1: the entities e5 and e6 ([elements] 445 and 450 of Fig. 4) are common to the hierarchies of both these root nodes" [col. 14, lines 52-54, Fohn].

Referring to Fig. 6A - 6B, Fohn [teaches] "Fig. 6 classifies the cameras according to an application, or type of use, perspective; Fig. 6B classifies the cameras according to an operating conditions perspective" [col. 20, lines 59-62, Fohn]. Further, Fohn teaches that "Camera E 615, on the other hand, may be used in landscape 603 applications or in special occasion 604 application, and in particular in wedding 608 application" [col. 20, [line] 67 - col. 21[, line] 3].

Clearly, Fohn teaches a method/system that categorizes the entities based on their attributes, and one [entity] can be assigned to a first node (cluster) and second node (second cluster) based on segments (application type, operating condition, or attributes of the entities) within the same document (entity, product) used to create the hierarchy of [clusters] (Fig. 6A-6C).

Examiner's Answer at pages 6-7.

Within the Supplemental Appeal Brief filed May 31, 2007 ("Supplemental Appeal Brief"), Appellants showed that Fohn fails to disclose or suggest "assigning documents to both first and second clusters based on segments within the same documents used to create the hierarchy of clusters." Supplemental Appeal Brief at page 20. According

to the cited portion of the Examiner's Answer, it appears that the Examiner is focusing on the first part of the statement "assigning documents to both first and second clusters based on segments within the same documents." But the Examiner appears to ignore that these same documents are used to **create** the hierarchy of clusters—i.e., the hierarchy is created based on the document's segments.

As stated in the Supplemental Appeal Brief, to organize entities, Fohn requires two necessary pieces of information: (1) a pre-existing hierarchy of category nodes and (2) a pre-existing base of entities (collection of entities) already instances of the category nodes. *Id.* at 8:39-56. Fohn then explores the pre-existing hierarchy to determine structural, state, and entity relevance. Once it has determined the relevance, Fohn modifies—not creates—a hierarchy according to the following:

Creating a catalog hierarchy and product information for the hierarchy often requires a significant amount of time and effort, even when using an efficient catalog creation system. A key advantage associated with the present invention is its ability to utilize existing category node hierarchies from which to enable an intelligent hierarchical exploration scheme, making it readily usable without requiring rework to either the product information or the categorization structure which has already been created.

Fohn at 8:57-65 (emphasis added).

Accordingly, contrary to the Examiner's assertions, Fohn fails to disclose "assigning documents to both first and second clusters based on segments within the same documents used to create the hierarchy of clusters."

The Examiner further alleged that Fohn does not require a pre-existing relationship by stating:

Referring to col. 9, lines 51-52, Fohn teaches "Structure relevance may be calculated in a [priori] or in a dynamic manner"; and "structure relevance

may be **computed dynamically** as exploration proceeds" [col. 9, lines 61-62]. Therefore, in this case, Fohn does not require a pre-existing relationship in order to create the hierarchy.

Examiner's Answer at page 7.

The Examiner's second quoted portion "structure relevance may be computed dynamically as exploration proceeds" (Fohn at 9:61-62; emphasis added) actually refers to a pre-existing hierarchy. The exploration portion of this quote refers to hierarchical exploration. According to following paragraphs of Fohn, hierarchical exploration can not occur unless there is already a pre-existing hierarchy:

This solution is based on the prior creation of two necessary pieces of information, both of which are commonly available in any electronic catalog system (e.g., a catalog created using IBM's Net.Commerce product). **First, a hierarchy of nodes that serves to categorize entities is required.** This structure will be organized as a hierarchy of category nodes. The shape of this hierarchy (that is, the number of levels and the number of nodes per level) will vary among particular electronic catalogs, depending upon the type of information represented by the catalog. As previously stated, examples of node hierarchies include book chapters, store departments, and other classifications, such as the example product categorization structure shown in FIG. 1A. Second, a base of entities is required, where the entities are instances of the category nodes. In most electronic catalogs, this base of entities comprises a base of products or parts, such as that illustrated in the example of FIG. 1B.

Creating a catalog hierarchy and product information for the hierarchy often requires a significant amount of time and effort, even when using an efficient catalog creation system. A key advantage associated with the present invention is its ability to utilize existing category node hierarchies from which to enable an intelligent hierarchical exploration scheme, making it readily usable without requiring rework to either the product information or the categorization structure which has already been created.

Fohn at 8:39-65 (emphasis added).

Therefore, Fohn requires a pre-existing hierarchy before proceeding with a hierarchical exploration.

Regarding the dynamic structural relevance calculation, the dynamic calculation occurs while executing the hierarchical exploration of the pre-existing hierarchy. Therefore, for the above reasons, Appellants respectfully request that the current rejection be withdrawn.

**III. One of Ordinary Skill in the Art Would Not Have a Reason to Combine Fohn into Heckerman**

For establishing the motivation to combine Fohn into Heckerman, the Examiner stated that:

It would have obvious to one with ordinary skill in the art at the time the invention was made to apply the teaching of Fohn into the invention of Heckerman because the combination would 'provide a powerful flexible technique for locating entities in a large information space using hierarchical navigation and browsing of these or more hierarchies'. (Col. 24, lines 14 - 17 of Fohn). The combination system would [enable] a user to search for a solution meeting his selected [constraints] from a multi-perspective viewpoint, guiding him through ascent and descent in a hierarchy as well as lateral exploration and movement to other hierarchies (col. 24, lines 19-23 of Fohn).

Examiner's Answer at pages 8-9.

As provided in the analysis within the Supplemental Appeal Brief, Heckerman is quite clear that, when creating a hierarchy, a data record can only belong to one cluster. Because Heckerman provides a data record that can only belong to one cluster, Heckerman fails to disclose the claimed invention. To overcome Heckerman's deficiency, the Examiner alleged that Fohn, which discloses a single entity belonging to multiple nodes, could be combined into Heckerman. But by doing so completely contradicts the invention disclosed in Heckerman. Therefore, one of ordinary skill in the

art would not have a reason to combine Fohn into Heckerman to form the claimed invention.

*In arguendo*, even if one of ordinary skill in the art would find a reason to combine Fohn into Heckerman, the combination would produce a result that would be completely different from the claims. Heckerman discloses creating a hierarchy having a cluster, wherein a data record can only belong to one cluster. As described above, Fohn discloses determining the relevance of a pre-existing collection of entities that are already instances of the pre-existing category nodes of a pre-existing hierarchy. Fohn is quite clear that it does not create hierarchies. *Id.* at 21:4-8. This would limit the applicability of Fohn to an established hierarchy. If combining Fohn with Heckerman, based on the motivation provided by the Examiner, one of ordinary skill in the art would derive a combination involving Heckerman's creation of a hierarchy having a cluster, wherein a data record can only belong to one cluster and then applying Fohn's intelligent exploration to Heckerman's hierarchy to determine if that data record—only associated to the one cluster—was relevant to the one cluster that the data record was associated with. This combined invention is far different from the claims at issue.

Further, the Examiner has failed to establish why one of ordinary skill in the art would even combine pre-categorized classification of Fohn with Heckerman's clustering that involves no categorization hierarchy having data record only associated with one cluster.

For at least these reasons, one of ordinary skill in the art would not have a reason to combine Heckerman and Fohn. Accordingly, because Heckerman in view of Fohn fails to disclose each and every limitation of the claims and because one of

ordinary skill in the art would not have a reason to combine Heckerman and Fohn for the matter claimed, the Examiner has failed to establish a *prima facie* obviousness. Therefore, Appellants respectfully request that the rejection using Heckerman and Fohn be withdrawn.

**IV. Summary**

For the above reasons, the rejection of claims 1-26 should be reversed and the claims allowed.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Reply Brief, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: October 1, 2007

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